

### 2.11.3 Curriculum of the first year of all BEng (4yr) programmes

The curriculum of the first year of the BEng (4yr) is the same for all fields of study:

*First semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Applied Mathematics B 124	4	0	2	0	15
Engineering Chemistry 123	4	0	2	0	15
Engineering Drawings 123	1	3	3	0	15
Engineering Mathematics 115	5	0	2	0	15
Engineering Physics 113	2	0,5	0,5	0	8
Professional Communication 113	2	0	1	0	8
<b>TOTALS</b>	<b>18</b>	<b>3,5</b>	<b>10,5</b>	<b>0</b>	<b>76</b>

*Second semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Applied Mathematics B 154	4	0	2	0	15
Computer Programming 143	3	2	0	0	12
Electrotechnique 143	3,5	1	2	0	15
Engineering Mathematics 145	5	0	2	0	15
Strength of Materials 143	3	0	2	0	12
<i>One of the following modules according to the corresponding programme (see note below):</i>					
Chemistry C 152	0	3	0	0	6
Electronic Engineering 152	0	0	3	0	6
Engineering Physics 152	2	0	1	0	6
Industrial Engineering 152	0	0	3	0	6
Mechanical Engineering 152	0	0	3	0	6
Mechatronic Engineering 152	0	0	3	0	6
<b>TOTALS</b>	<b>18,5 or 20,5</b>	<b>3 or 6</b>	<b>11, 9 or 8</b>	<b>0</b>	<b>75</b>

*Note: Engineering Physics 152 is part of the BEng Civil Engineering programme, and Chemistry C 152 is part of BEng Chemical Engineering. The modules for the other programmes are as indicated by their names. This choice will not prevent you from changing to another degree programme at the end of the first year if you are eligible for such a change. (Refer to Section 2.5 above for details on changing your degree programme.)*

*Second semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Advanced Design (Civil) 446	2	6	0	0	15
Complementary Studies (Eng) 441	0	0	3	0	4
Engineering Management 454	5	0	1	0	15
Environmental Engineering 454	3	0	2,5	0	15
Project (Civil Engineering) 458	1	20	0	0	30
<b>TOTALS</b>	<b>11</b>	<b>26</b>	<b>6,5</b>	<b>0</b>	<b>79</b>

### 2.11.6 Curriculum of four-year BEng Electrical and Electronic Engineering

*Home department: Electrical and Electronic Engineering*

The first and second year, and first semester of the third year of this programme, comprises general techniques relevant to all electrical and electronic engineers, particularly the techniques to model and systematically design systems. In the second semester of the third year, you must choose one of the following four specialist directions:

- Telecommunication
- Informatics
- Energy
- Robotics

These directions give you the opportunity to partially focus your degree programme in your direction of choice as preparation for modern industry and/or postgraduate study.

#### Year 1

The common first-year curriculum for BEng (4yr) (see Section 2.11.3).

#### Year 2

*First semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Applied Mathematics B 224	3	0	3	0	15
Computer Systems 214	3	2	1	0	15
Computer Science E 214	3	3	0	0	15
Engineering Mathematics 214	4	0	2	0	15
Systems and Signals 214	3	1	2	0	15
<b>TOTALS</b>	<b>16</b>	<b>6</b>	<b>8</b>	<b>0</b>	<b>75</b>

*Second semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Applied Mathematics B 242	2	0	1,5	0	8
Computer Systems 245	3	3	0	0	15

## Engineering

Electronics 245	3	1	2	0	15
Energy Systems 244	3	0,5	2,5	0	15
Engineering Mathematics 242	2	0	1	0	8
Systems and Signals 244	3	1,5	1,5	0	15
<b>TOTALS</b>	<b>16</b>	<b>6</b>	<b>8,5</b>	<b>0</b>	<b>76</b>

### Year 3

*Both semesters*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Internship (Eng) 392*	0	0	0	0	0
<b>Internship (Eng) 393*</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* *These are optional modules that allow selected students to interrupt their credit-bearing studies for one year to complete internships at approved organisations, or to complete a semester of credit-bearing exchange; consult to the module contents in Section 4.3 for further details. These optional modules may not be available in all years and you should confirm their availability before making any arrangements.*

*First semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Control Systems 314	3	1,5	1,5	0	15
Design (E) 314	1	3	0	0	15
Electromagnetics 314	3	1	2	0	15
Electronics 315	3	1,5	1,5	0	15
Systems and Signals 315	3	1,5	1,5	0	15
<b>TOTALS</b>	<b>13</b>	<b>8,5</b>	<b>6,5</b>	<b>0</b>	<b>75</b>

*Second semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Control Systems 344	3	1,5	1,5	0	15
Design (E) 344	1	3	0	0	15
Electronics 365	3	1	2	0	15
Systems and Signals 344	3	1	2	0	15
<i>Choose one of the following elective modules (see note below):</i>					
Electromagnetics 344	3	1,5	1,5	0	15
Energy Systems 344	3	1	2	0	15
<b>TOTALS</b>	<b>13</b>	<b>8/7,5</b>	<b>7/7,5</b>	<b>0</b>	<b>75</b>

*Note: Electromagnetics 344 is a prerequisite for the Telecommunication specialty in Year 4 and Energy Systems 344 is a prerequisite for the Energy specialty in Year 4. For the other two specialist directions, you may choose either of the two elective modules.*

**Year 4**

*First semester: Telecommunication*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
High Frequency Technique 414	3	1	1	0	15
Philosophy and Ethics 414	3	0	1	0	8
Project Management 412	3	0	1	0	12
Systems and Signals 414	3	1	1	0	15
Telecommunication 414	3	1	1	0	15
<i>Choose one of the following elective modules:</i>					
Computer Science 315	3	0	3	0	16
Electronics 414	3	1	1	0	15
<b>TOTALS</b>	<b>18</b>	<b>3/4</b>	<b>8/6</b>	<b>0</b>	<b>81/80</b>

*First semester: Informatics*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Computer Science 315	3	0	3	0	16
Computer Science 334	3	3	0	0	16
Philosophy and Ethics 414	3	0	1	0	8
Project Management 412	3	0	1	0	12
Systems and Signals 414	3	1	1	0	15
<i>Choose one of the following elective modules:</i>					
Computer Systems 414	3	1	1	0	15
Telecommunication 414	3	1	1	0	15
<b>TOTALS</b>	<b>18</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>82</b>

*First semester: Energy*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Electronics 414	3	1	1	0	15
Energy Systems 414	3	0,5	1,5	0	15
Energy Systems 424	3	0,5	1,5	0	15
Philosophy and Ethics 414	3	0	1	0	8
Project Management 412	3	0	1	0	12
<i>Choose one of the following elective modules:</i>					
Computer Systems 414	3	1	1	0	15
Control Systems 414	3	1	1	0	15
<b>TOTALS</b>	<b>18</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>80</b>

*First semester: Robotics*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Computer Systems 414	3	1	1	0	15
Control Systems 414	3	1	1	0	15
Philosophy and Ethics 414	3	0	1	0	8
Project Management 412	3	0	1	0	12
Systems and Signals 414	3	1	1	0	15
<i>Choose one of the following elective modules:</i>					
Computer Science 315	3	0	3	0	16
Electronics 414	3	1	1	0	15
<b>TOTALS</b>	<b>18</b>	<b>3/4</b>	<b>8/6</b>	<b>0</b>	<b>81/80</b>

*Second semester: all specialities*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Complementary Studies (Eng) 441	0	0	3	0	4
Entrepreneurship (Eng) 444	3	0	3	0	15
Environmental Engineering 442 *	3	0	2	0	8
Project (E) 448	0	20	0	0	45
<b>TOTALS</b>	<b>6</b>	<b>20</b>	<b>8</b>	<b>0</b>	<b>72</b>

\* Presented during the first seven weeks of the semester.

### 2.11.7 Curriculum of four-year BEng Industrial Engineering

*Home department: Industrial Engineering*

#### Year 1

The common first-year curriculum for BEng (4yr) (see Section 2.11.3)

#### Year 2

*First semester*

	<i>L</i>	<i>P</i>	<i>T</i>	<i>S</i>	<i>c</i>
Applied Mathematics B 224	3	0	3	0	15
Electrotechnique 214	3	1	2	0	15
Engineering Economics 212	2	0	2	0	8
Engineering Mathematics 214	4	0	2	0	15
Practical Workshop Training 211	0	0	0	0	0
Production Management 212	2	0	2	0	8
Thermofluid Dynamics 214	3	1	2	0	15
<b>TOTALS</b>	<b>17</b>	<b>2</b>	<b>13</b>	<b>0</b>	<b>76</b>